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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/836,484	Applicant(s) COOPER ET AL.	
	Examiner Siegfried E. Chencinski	Art Unit 3692	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-18,22,23,28 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-18,22,23,28 and 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 14-18, 22, 23, 28 & 29 are rejected under 35 U.S.C. 103(a) as being disclosed by Gatto (US PreGrant Publication 2003/0065601 A1) in view of Applicant disclosed prior art (hereafter AAPA), Official Notice, Microsoft Excel ® 5 Training Book (hereafter Excel) and Jones et al. (US Patent 6,021,397).

Re. Claims 14-18, 22, 23 & 28, Gatto, Jones, Makivic, Official Notice, AAPA, Morningstar.com, E*Trade collectively disclose a wide variety of computer automatic graphic display of a variety of data output from mathematical algorithms related to financial security market calculations regarding historical and projected data. Excel discloses one example of many general capabilities of off the shelf office software for graphically displaying data outputs of mathematical algorithms in many formats and geometric shapes with many notation capabilities. However, none of Gatto, Jones, Makivic, Official Notice, AAPA, Morningstar.com, E*Trade or Excel explicitly disclose the exact method for use in a visualization system comprising the steps of:

Re. Claims 14 & 28,

- (a) generating data representing a trend-following curve as a function of a provided performance measure at a succession of times prior to a given date;
- (b) generating data representing at least one stripe, each stripe indicating a range of potential values of the performance measure, each stripe corresponding to a range of odds of the performance measure having the indicated values at a succession of times;

- (c) each stripe beginning at the end of the trend-following curve at a point on the curve corresponding to the performance measure at the given date and becoming broader as it extends to times later than the given date;
 - (d) a boundary of each stripe varying as a function of time according to variations in the odds of the performance measure being within the range of values indicated by the stripe as determined by an algorithm capable of producing predicted probability distributions; and
- (e) displaying the trend line and the stripes in the visualization system.

Re. Claim 15, the performance comprises a price of a financial the asset.

Re. Claim 16, in which the performance measure comprises a return percentage.

Re. Claim 17, in which the performance measure comprises a tax-adjusted return percentage.

Re. Claim 18, in which generating data includes generating data representing two or more stripes, each representing a different range of potential values of the performance measure, and displaying includes displaying each of the two or more stripes.

Re. Claim 22, in which each stripe includes two portions, one of the portions representing the potential values prior to a second date based on one assumption, the other of the portions representing the potential values after the second date based on another assumption.

Re. Claim 23, in which the second date is a date on which tax effects change from the one assumption to the other assumption.

Applicant states that claim 14 is exemplary of claim 28 (REMARKS submitted June 15, 2006, p. 8, ll. 32-33).

The Office Actions dated March 9, 2006 and September 9, 2005 established on the record the disclosures of Gatto, Jones, Makivic, Official Notice, AAPA (such as that of Morningstar.com and E*Trade) that the above mentioned computer automated graphic displays of quantitative data displays of various algorithms were in widespread use in the financial securities industry.

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- The use of graphic displays of data was old, well known and a ubiquitous phenomenon at the time of applicant's invention. The computer revolution automated the art of graphic displays and put it on the computer screen and on computer printouts, first in a single color contrast on a background color (e.g. white on a dark grayish or black background), and then in a multiplicity of colors on a background of the user's choice. Some of the dramatic examples of this computer automation revolution are CAD/CAM, maps, computer animation, and the computer displays of tables, charts and graphs in all kinds of shapes, virtually any known geometric shape and other hand drawn shapes as well. The most well known softwares which came into the market place in the 1980's for the graphic and geometric display of data were Lotus123, Lotus Notes, Harvard Graphics, Excel and Adobe, among many others, along with other off the shelf and custom software systems. Several of these software systems have automated the process of creating basic free form mathematically related graphics and general art on a computer screen available in relatively inexpensive off the shelf packages to be run on the ordinary desk top or laptop PC. Applicant is referred to select pages of an independent EXCEL ® 5 training book as an example of what one of the simpler off the shelf software packages was capable of prior to Applicant's invention directly related to Applicant's invention. The ordinary practitioner of the art would have been familiar with these capabilities at the time of Applicant's invention and also would have known that off the shelf and custom softwares were capable of all of the graphic display features in Applicant's invention. The ordinary practitioner also would have known that widespread use was being made in the financial arts of these very handy computer automated graphic displays of quantitative information of every kind being used by office, accounting, financial and investment

clerks, financial managers, financial traders, investors of every level of sophistication and PhD academics in the financial arts alike.

Applicant has amended the claims with synonym meanings of the language which the amendment language replaces. The inventions and the limitations remain the same in their meaning. Examples from claims 14, 18 and 28 are:

- "trend-following curve" for a "trend-line";
- "a range of odds" for a "range of potential values" of the performance measure;
- "the range of values indicated by the stripe" for "the range represented by the stripe".

It is understandable that Applicant had little choice in substituting synonym language in order to not add new matter.

Therefore, an ordinary practitioner of the art at the time of Applicant's invention would have found it as obvious to have combined the disclosures of Gatto with the art of Jones, Makivic, Official Notice, AAPA (such as that of Morningstar.com and E*Trade) and Excel in order to produce a method for use in a visualization system comprising the steps of the above stated limitations of claims 14-18, 22, 23 & 28. The practitioner's motivation would have been based on the desire to provide users with improved tools for effectively viewing historical estimates, analytical projections and recommendations regarding financial assets such as securities (Gatto, [0008]).

Re. Claim 29, Gatto, Jones, Makivic, Official Notice, AAPA, Morningstar.com, E*Trade collectively disclose a wide variety of computer automatic graphic display of a variety of data output from mathematical algorithms related to financial security market calculations regarding historical and projected data. Excel discloses one example of many general capabilities of off the shelf office software for graphically displaying data outputs of mathematical algorithms in many formats and geometric shapes with many notation capabilities. However, none of Gatto, Jones, Makivic,

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Official Notice, AAPA, Morningstar.com, E*Trade or Excel explicitly disclose the exact method for use in a visualization system comprising the steps of:

- generating data representing a trend-following curve as a function of a price of a financial asset at a succession of historical times prior to a first date,
- generating data representing two or more stripes, each stripe indicating a range of potential values of the price at a succession of future times after the first date,
- the different stripes corresponding to different ranges of odds that the asset has the values shown by the stripe at each time of the succession of times,
- each stripe beginning at the end of the trend-following curve at a point on the curve corresponding to the price at the first date and becoming broader as it extends to future times after the first date,
- each stripe including two portions, one of the portions representing the potential values prior to a second date based on one assumption, the other of the portions representing the potential values after the second date based on another assumption,
- a boundary of each stripe varying as a function of time according to variations in the odds of the price having the values indicated by the stripe as determined by an algorithm capable of producing predicted probability distributions, and displaying the trend line and the stripes in the visualization system.

The Office Actions dated March 9, 2006 and September 9, 2005 established on the record the disclosures of Gatto, Jones, Makivic, Official Notice, AAPA (such as that of Morningstar.com and E*Trade) that the above mentioned computer automated graphic displays of quantitative data displays of various algorithms were in widespread use in the financial securities industry.

- The use of graphic displays of data was old, well known and a ubiquitous phenomenon at the time of applicant's invention. The computer revolution automated the art of graphic displays and put it on the computer screen and on computer printouts, first in a single color contrast on a background color (e.g. white on a dark grayish or black background), and then in a multiplicity of colors on a background of the user's choice. Some of the dramatic examples of this computer automation revolution are CAD/CAM, maps, computer animation, and the computer displays of tables, charts and graphs in all kinds of shapes, virtually any known geometric shape and other hand drawn shapes as well. The most well known softwares which came into the market place in the 1980's for the graphic and geometric display of data were Lotus123, Lotus Notes, Harvard Graphics, Excel and Adobe, among many others, along with other off the shelf and custom software systems. Several of these software systems have automated the process of creating basic free form mathematically related graphics and general art on a computer screen available in relatively inexpensive off the shelf packages to be run on the ordinary desk top or laptop PC. Applicant is referred to select pages of an independent EXCEL ® 5 training book as an example of what one of the simpler off the shelf software packages was capable of prior to Applicant's invention directly related to Applicant's invention. The ordinary practitioner of the art would have been familiar with these capabilities at the time of Applicant's invention and also would have known that off the shelf and custom softwares were capable of all of the graphic display features in Applicant's invention. The ordinary practitioner also would have known that widespread use was being made in the financial arts of these very handy computer automated graphic displays of quantitative information of every kind being used by office, accounting, financial and investment clerks, financial managers, financial traders, investors of every level of

sophistication and PhD academics in the financial arts alike. The tracking of a specific variable such as price is fully encompassed in the above prior art, most especially in the financial arts.

Therefore, an ordinary practitioner of the art at the time of Applicant's invention would have found it as obvious to have combined the disclosures of Gatto with the art of Jones, Makivic, Official Notice, AAPA (such as that of Morningstar.com and E*Trade) and Excel in order to produce a method for use in a visualization system comprising the steps of the above stated limitations of claim 29. The practitioner's motivation would have been based on the desire to provide users with improved tools for effectively viewing historical estimates, analytical projections and recommendations regarding financial assets such as securities (Gatto, [0008]).

Response to Arguments

3. Applicant's arguments filed June 7, 2007 have been fully considered but they are not persuasive.

ARGUMENT A: Lack of a *prima facie* case of obviousness: "Although the examiner has argued at length why creating graphs on a computer may have been well-known, the argument does not amount to a *prima facie* case that the visualization system as claimed would have been obvious. A *prima facie* case of obviousness requires that the references "teach or suggest *all the claim limitations*" (MPEP §706.02(j), citing *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991), emphasis added), and the examiner has not shown this to be the case." (P. 6, ll. 2-6).

RESPONSE:

(1) Applicant argues references to the US Supreme Court's recent KSR ruling. Please read the precedential opinion by the Board of Patent Appeals and Interferences regarding the interpretation of the Supreme Court's ruling regarding an examiner's establishment of a *prima facie* case of obviousness:

PRINCIPLES OF LAW

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a

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person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007).

The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). *See also KSR*, 127 S.Ct. at 1734, 82 USPQ2d at 1391 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”) The Court in *Graham* further noted that evidence of secondary considerations, such as commercial success, long felt but unsolved needs, failure of others, etc., “might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” 383 U.S. at 18, 148 USPQ at 467.

In *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” *id.* at 1739, 82 USPQ2d at 1395, and discussed circumstances in which a patent might be determined to be obvious without an explicit application of the teaching, suggestion, motivation test.

In particular, the Supreme Court emphasized that “the principles laid down in *Graham* reaffirmed the ‘functional approach’ of *Hotchkiss*, 11 How. 248.” *KSR*, 127 S.Ct. at 1739, 82 USPQ2d at 1395 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12, 148 USPQ 459, 464 (1966) (emphasis added)), and reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

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Id. at 1740, 82 USPQ2d at 1396. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

The Supreme Court made clear that “[f]ollowing these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement.” *Id.* The Court explained, “[o]ften, it will be

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necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *Id.* at 1740-41, 82 USPQ2d at 1396. The Court noted that “[t]o facilitate review, this analysis should be made explicit. *Id.* (citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”). However, “the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.* at 1741, 82 USPQ2d at 1396.

The Supreme Court’s opinion in *United States v. Adams*, 383 U.S. 39, 40, 148 USPQ 479, 480 (1966) is illustrative of the “functional approach” to be taken in cases where the claimed invention is a prior art structure altered by substituting one element in the structure for another known element. *KSR*, 127 S.Ct. at 1734, 82 USPQ2d at 1391. “The Court [in *Adams*] recognized that when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. 383 U.S., at 50-51.” *Id.* Ultimately the *Adams* Court found the combination at issue *not* obvious to those skilled in the art because, although the elements were known in the prior art, they worked together in an *unexpected* manner.

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The [*Adams*] Court relied upon the corollary principle that when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious. *Id.*, at

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51-52, 86 S.Ct. 708. When Adams designed his battery, the prior art warned that risks were involved in using the types of electrodes he employed. *The fact that the elements worked together in an unexpected and fruitful manner supported the conclusion that Adams's design was not obvious to those skilled in the art.*

KSR, 127 S.Ct. at 1740, 82 USPQ2d at 1395 (emphasis added). (BPAI, *Ex parte* CATAN, Appeal 2007-0820, Decided: July 3, 2007)

(2) In this instance, the examiner has followed the principles of *Graham vs Deere* in the examination. Among other things, application's claimed invention "does no more than yield predictable results", as stated in the above opinion. The examiner also provided in depth rationale in presenting the level of knowledge and skill possessed by one of ordinary skill involving Applicant's invention. The examiner presented the art and the well known tools which had been available at the time of Applicant's invention. Applicant has failed to reach the bar required for a successful rebuttal of the examiner's presentation of the prior art and the examiner's rationale. As per MPEP **2145**,

Consideration of Applicant's Rebuttal Arguments [R-3]

I. ARGUMENT DOES NOT REPLACE EVIDENCE WHERE EVIDENCE IS NECESSARY

Attorney argument is not evidence unless it is an admission, in which case, an examiner may use the admission in making a rejection. See MPEP § 2129 <2100 2129.htm> and § 2144.03 <2100 2144 03.htm> for a discussion of admissions as prior art.

The arguments of counsel cannot take the place of evidence in the record. *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) ("An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required to rebut a *prima facie* case of obviousness."). See MPEP § 716.01(c) <0700 716 01 c.htm> for examples of attorney statements which are not evidence and which must be supported by an appropriate affidavit or declaration.

In this instance, Applicant has merely made arguments which fail to rise to the required level of evidence.

(3) Regarding Applicant's argument that there is a lack of motivation to combine these references.

(a) The Examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the

proposed combination of primary and secondary references. **In re Nomiya**, 509 F.2d 566, 184 USPQ 607, (CCPA 1975).

(b) There is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. **In re McLaughlin** 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971).

(c) References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. **In re Bozek**, 163 USPQ 545 9ccpa) 1969.

(d) In this case, the review of the prior art and the assessment of the skills and knowledge of one of ordinary skill as presented in the claims rejections makes it clear that one of ordinary skill would have found it obvious to design Applicant's invention.

(4) In sum, the examiner believes that he has presented a valid *prima facie* case of obviousness in the rejections of Applicant's current claims.

Conclusion

4. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Siegfried Chencinski whose telephone number is (571)272-6792. The Examiner can normally be reached Monday through Friday, 9am to

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6pm. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kambiz Abdi, can be reached on (571) 272-6703.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks, Washington D.C. 20231


or (571)273-8300 [Official communications; including After Final communications labeled "Box AF"]

or (571) 273-6792 [Informal/Draft communications, labeled "PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to the address found on the above USPTO web site in Alexandria, VA.

SEC

August 20, 2007



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